MUS becomes Bodily Stress Syndrome in the ICD-11 for primary care
Results from the WHO Primary Care Consultation Group on mental health

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OUTLINE

• Classification systems and MUS
• WHO working process
• New proposal for the ICD-11
  • Evidence
  • Field trials
• Discussion and challenges
Classification systems

Primary care
- ICD-PC
  - ICD-PC mental disorders
- ICPC
- Read codes
- (ICF)
- ......

Secondary care
- ICD
- DSM
- Snomed-CT (terminology)
- ......
ICD-10-PC chapter V
Functional Disorders

F44 Dissociative (conversion) disorder
F45 Unexplained somatic complaints
F48 Neurasthenia
Features of unexplained somatic complaints

- Various many physical symptoms without a physical explanation (a full history and physical examination are necessary to determine this)

- Frequent medical visits in spite of negative investigations

- Some patients may be primarily concerned with obtaining relief from physical symptoms. Others may be worried about having a physical illness and be unable to believe that no physical condition is present (hypochondriasis).

- Symptoms of depression and anxiety are common
Classification ICD-10 – chapter V/F

Somatoform disorders

Physical symptoms and persistent requests for medical investigations, in spite of negative findings and reassurance

**Duration > 6 months**

- F45.0 Somatization disorder (>2 years)
- F45.1 Undifferentiated somatoform disorder
- F45.2 Hypochondriacal disorder
- F45.3 Somatoform autonomic dysfunction
- F45.4 Persisting somatoform pain disorder
- F45.8 Other somatoform disorders
- F45.9 Somatoform disorder, unspecified

Neurastenia
Dissociative disorder
# Classification ICD-10

<table>
<thead>
<tr>
<th>Medical specialty</th>
<th>Functional somatic syndrome</th>
</tr>
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<tbody>
<tr>
<td>Gastroenterology</td>
<td>Irritable bowel syndrome (IBS), non-ulcer dyspepsia</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Pelvic arthropathy, premenstrual syndrome, chronic pelvic pain</td>
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<tr>
<td>Rheumatology</td>
<td>Fibromyalgia, chronic lower back pain</td>
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<tr>
<td>Cardiology</td>
<td>Atypical or non-cardiac chest pain</td>
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<tr>
<td>Respiratory medicine</td>
<td>Hyperventilation syndrome</td>
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<tr>
<td>Infectious diseases</td>
<td>Chronic fatigue syndrome (CFS, ME)</td>
</tr>
<tr>
<td>Neurology</td>
<td>Tension headache, pseudo-epileptic seizure</td>
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<tr>
<td>Dentistry</td>
<td>Temporomandibular joint dysfunction, atypical facial pain</td>
</tr>
<tr>
<td>Ear, nose and throat</td>
<td>Globus syndrome</td>
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<tr>
<td>Allergy</td>
<td>Multiple chemical sensitivity (MCS)</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>WAD - whiplash associated disorder</td>
</tr>
<tr>
<td>Anaesthesiology</td>
<td>Chronic benign pain syndrome</td>
</tr>
</tbody>
</table>

Problems with the ICD-10 criteria

- Diagnoses based on the exclusion of organic disease
- Developed in highly selected patient populations
- ‘Somatoform Disorder’ only includes illness of at least 6 months’ duration (in ICD-10)
- Competing parallel diagnoses

- GPs are reluctant to use the diagnosis SD (fear of stigmatisation, fear of misclassification)
- GPs do not agree on the concept

(Rosendal 2007, Fink 2008, Rask 2016)
The WHO

THE ICD-11 PRIMARY CARE CONSULTATION GROUP ON MENTAL HEALTH

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International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders

- Chairs
  - David Goldberg, UK
  - Geoffrey Reed, WHO
  - Michael Klinkman, US
- Primary care
  - Anthony Dowell, N.Z.
  - Marianne Rosendal, DK
  - Tai Pong Lam, Hong Kong
  - (Gloria Thupayagale-Tshweneagae, Botswana)

- Psychiatrists
  - Sandra Fortes, Brazil
  - Linda Gask, UK
  - Kuruthukulangara S. Jacob, India
  - Joseph K. Mbatia, Tanzania
  - Fareed Aslam Minhas, Pakistan

8 specialist groups on the ICD-11 mental disorders

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WHO timeline for new proposals

<table>
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</thead>
<tbody>
<tr>
<td>First meeting</td>
<td>Evidence with specialist group</td>
<td>First hearing of draft</td>
<td>Focus group interviews on BSS</td>
<td>Field trials on BSS etc.</td>
<td>Data analyses</td>
<td>Discussion of field trials in WG</td>
<td>Revised draft</td>
<td>Second hearing</td>
</tr>
</tbody>
</table>

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"MUS" becomes "BSS"

EVIDENCE
Spectrum disorder

Degree of specialisation

Primary care ↔ mental health care

Well

Bodily sensations

Self-limiting symptoms

Persistent symptoms

Functional disorders

Trials on prevention and treatment

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Co-morbidity in psychiatry

Medical and neurological inpatients / Primary care

Somatoform (25.3%) (36%)
Depression (9.8%) (14%)
Anxiety (19.8%) (16%)
No mental disturbance (60%)

15.5% (14%)
1.5%
2.9%
6.5%
3.2%
8.3%

The Aarhus study

- Patient population – Central Denmark Region
  - Primary care, n=1785
  - Neurological department, n=198
  - Medical department, n=294

- Procedures
  - Consecutive inclusion of patients
  - 978 selected for interview (SCAN)
  - 76 physical symptoms explored and rated by trained interviewers (psychiatrists)
  - Principal component factor analysis of 62 most frequent symptoms
  - Latent class analyses
# Physical symptoms – clusters

## Cardiopulmonary/ autonomic symptoms

1. Palpitation / heart pounding  
2. Precordial discomfort  
3. Breathlessness without exertion  
4. Hyperventilation  
5. Hot or cold sweats  
6. Dry mouth

## Musculoskeletal symptoms

1. Pains in arms or legs  
2. Muscular aches or pains  
3. Pains in the joints  
4. Feeling of paresis/ localized weakness  
5. Backache  
6. Pain moving from one place to another  
7. Unpleasant numbness/ tingling sensation

## Gastrointestinal symptoms

1. Abdominal pains  
2. Frequent loose bowel movements  
3. Diarrhoea  
4. Feeling bloated/full of gas/distended  
5. Nausea  
6. Regurgitations  
7. Burning sensation in chest/ epigastrium

## General symptoms

1. Concentration difficulties  
2. Excessive fatigue  
3. Headache  
4. Impairment of memory  
5. Dizziness

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Clinical diagnosis: Bodily distress syndrome

<table>
<thead>
<tr>
<th>Symptom groups</th>
<th>1) Palpitations</th>
<th>2) Precordial discomfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3 cardio-respiratory /autonomic arousal</td>
<td>3) Breathlessness</td>
<td>without exertion</td>
</tr>
<tr>
<td></td>
<td>4) Hyperventilation</td>
<td></td>
</tr>
<tr>
<td>≥ 3 gastro-intestinal arousal</td>
<td>5) Hot or cold sweats</td>
<td></td>
</tr>
<tr>
<td>≥ 3 musculoskeletal tension</td>
<td>6) Dry mouth</td>
<td></td>
</tr>
<tr>
<td>≥ 3 general symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Fink 2007)
BDS captures functional syndromes

Any Somatoform disorder, n=178

Bodily distress syndrome, n=250
Prevalence 15.7 [13.2-18.6]

Any functional somatic syndrome (fibromyalgia, CFS, hyperventilation syndrome, IBS, noncardiac chest pain, pain syndrome) n=220
Prevalence 14.2 [11.8-17.0]

Population N=2277
(Fink 2010)
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BDS in primary care – confirmed

- Cross sectional study 2008-2010
- Population – Central Denmark Region
  - 404 GP participants
  - Face-to-face contacts, adults (N= 4162)
  - Response 58% (n=2475) on questionnaire
- Results BDS:
  - Symptom clusters confirmed
  - Prevalence 17%
  - SF-12, Physical Component Summary: 33.6 (SD 10.1)
  - SF-12, Mental Component Summary: 39.1 (SD 11.2)

(Budtz-Lilly, 2016)
MUS becomes Bodily Stress Syndrome

PROPOSAL AND FIELD TRIALS
Bodily Stress Syndrome – BSS proposal

- At least 3 persistent symptoms over time attributable to autonomic over-arousal (cardio-respiratory, gastrointestinal, musculoskeletal) or as general symptoms of tiredness and exhaustion
- Patient’s concern over health expresses itself as excessive time and energy devoted to these symptoms
- Symptoms are distressing and result in significant disability

Exclusion:
- Those with anxiety or depression at case level should not be diagnosed as BSS, but sub-threshold anxious depression may be present.
- If the symptoms are accounted for by a known physical disease this is not BSS
ICD-11-PC vs. ICD-10

**Bodily Stress syndrome**
- CP arousal
- GI arousal
- Musculoskeletal tension
- General distress symptoms

**Health preoccupation**

**Dissociative disorder**

**Functional somatic syndromes**
- Neurasthenia
- Somatoform disorders
  - Somatization disorder
  - Undifferentiated SD
  - Pain disorder
  - Neurasthenia
  - Somatoform autonomic dysfunction
  - Hypochondriasis
  - NOS

**Dissociative (conversion) disorder**
Field trials - publications

1) Lam TP, Goldberg DP et al: Proposed new diagnoses of anxious depression and bodily stress syndrome in ICD-11-PHC: an international focus group study (Fam Pract. 2013)


3) Goldberg DP, Lam TP et al: Primary care physicians' use of the proposed classification of common mental disorders for ICD-11 (Fam Pract 2017)

Field trial: Focus group interviews

- 9 groups, 4-15 participants, 2011
- 7 locations: Austria, Brazil, Hong Kong, New Zealand, Pakistan, Tanzania and United Kingdom.
- BSS considered a better term than MUS
- Disagreements about the number of symptoms required
- Symptom categories provided a basis for useful explanations
Field trial: cross sectional study

- 5 countries: Hong Kong, Pakistan, Spain, Mexico, Brazil
- 587 patients
- Selective inclusion by PCP (BSS or HA)
- Followed by standardised psychiatric interview (CIS-R)

- 81% female
- 70.4% had both BSS and HA
- Average of 11 somatic symptoms
# PCP diagnoses

<table>
<thead>
<tr>
<th></th>
<th>Brazil (n=55)</th>
<th>China (n=74)</th>
<th>Mexico (n=175)</th>
<th>Pakistan (n=214)</th>
<th>Spain (n=69)</th>
<th>All (n=587)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Anxiety only</td>
<td>1</td>
<td>11</td>
<td>15</td>
<td>0</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>1.8%</td>
<td>14.9%</td>
<td>8.6%</td>
<td>2.9%</td>
<td>4.9%</td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>-1.8 - 5.4</td>
<td>6.7 - 23.0</td>
<td>4.4 - 12.7</td>
<td>-1.1 - 6.9</td>
<td>3.2 - 6.7</td>
<td></td>
</tr>
<tr>
<td>BSS only</td>
<td>33</td>
<td>32</td>
<td>32</td>
<td>33</td>
<td>15</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>60.0%</td>
<td>43.2%</td>
<td>18.3%</td>
<td>15.4%</td>
<td>21.7%</td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>46.9-73.1</td>
<td>31.9-54.6</td>
<td>12.5-24.0</td>
<td>10.6-20.3</td>
<td>11.9-31.6</td>
<td></td>
</tr>
<tr>
<td>BSS and Health Anxiety</td>
<td>21</td>
<td>31</td>
<td>128</td>
<td>181</td>
<td>52</td>
<td>413</td>
</tr>
<tr>
<td></td>
<td>38.2%</td>
<td>41.9%</td>
<td>73.1%</td>
<td>84.6%</td>
<td>75.4%</td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>25.2-51.2</td>
<td>30.6-53.2</td>
<td>66.5-79.7</td>
<td>79.7-89.4</td>
<td>65.1-85.6</td>
<td></td>
</tr>
</tbody>
</table>

**78.9% [75.6–82.2]** with BSS/HA comorbid **mood or anxiety** disorder

Except China: **45.9% [34.5–57.4]**
# Symptom patterns in BSS

<table>
<thead>
<tr>
<th></th>
<th>All countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N, %</td>
</tr>
<tr>
<td>Diffuse symptoms</td>
<td>98, 17.6%</td>
</tr>
<tr>
<td>Single symptom cluster</td>
<td>137, 24.6%</td>
</tr>
<tr>
<td>Multiple symptom clusters</td>
<td>323, 57.9%</td>
</tr>
</tbody>
</table>
Key points

- Criteria for BSS proposed and in final hearing
- BSS stays in chapter about mental health
- The new criteria found useful in PC
- Quantitative results differ between countries
- Results about comorbidity and symptom patterns differ from original (rigorous) trials
Discussion / challenges

- Conservative approach – once mental always…
- Proposal as a mix of evidence and GOBSAT
- Field trials are methodologically weak
- Must cover worldwide
  - Differences between countries?
  - Evidence for whom?
- Specialist groups at odds with criteria in primary care
- What will be released by the WHO?
THANK YOU FOR LISTENING!

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